Fractional and negative indices *lesson handout*

In books

1. A negative index means 1 over: $a^{-n} = \frac{1}{a^n}$
2. An index of $\frac{1}{2}$ is a square root: $a^{\frac{1}{2}} = \sqrt{a}$
3. An index of $\frac{1}{3}$ is a cube root: $a^{\frac{1}{3}} = \sqrt[3]{a}$

We do

Work out 2^{-4}.

$= \frac{1}{2^4}$

$= \frac{1}{\square}$

You do

Work out 10^{-2}.

$= \frac{1}{\square}$

$= \frac{1}{\square}$

You do

Work out 5^{-3}.

$= \frac{1}{\square}$

$= \frac{1}{\square}$

We do

Work out $1000^{\frac{1}{3}}$.

$= \sqrt[3]{1000}$

$= \square$

You do

Work out $121^{\frac{1}{2}}$.

$= \sqrt{\square}$

$= \square$

You do

Work out $8^{\frac{1}{3}}$.

$= \sqrt[3]{\square}$

$= \square$

We do

Work out $125^{-\frac{1}{3}}$.

$= \frac{1}{125^{\frac{1}{3}}}$

$= \frac{1}{\sqrt[3]{\square}}$

$= \frac{1}{\square}$

You do

Work out $100^{-\frac{1}{2}}$.

$= \frac{1}{\square}$

$= \frac{1}{\sqrt{\square}}$

$= \frac{1}{\square}$

You do

Work out $144^{-\frac{1}{2}}$.

$= \frac{1}{\square}$

$= \frac{1}{\sqrt{\square}}$

$= \frac{1}{\square}$